

(No Model.)

2 Sheets—Sheet 1.

L. DASO.
ELEVATOR.

No. 276,785.

Patented May 1, 1883.

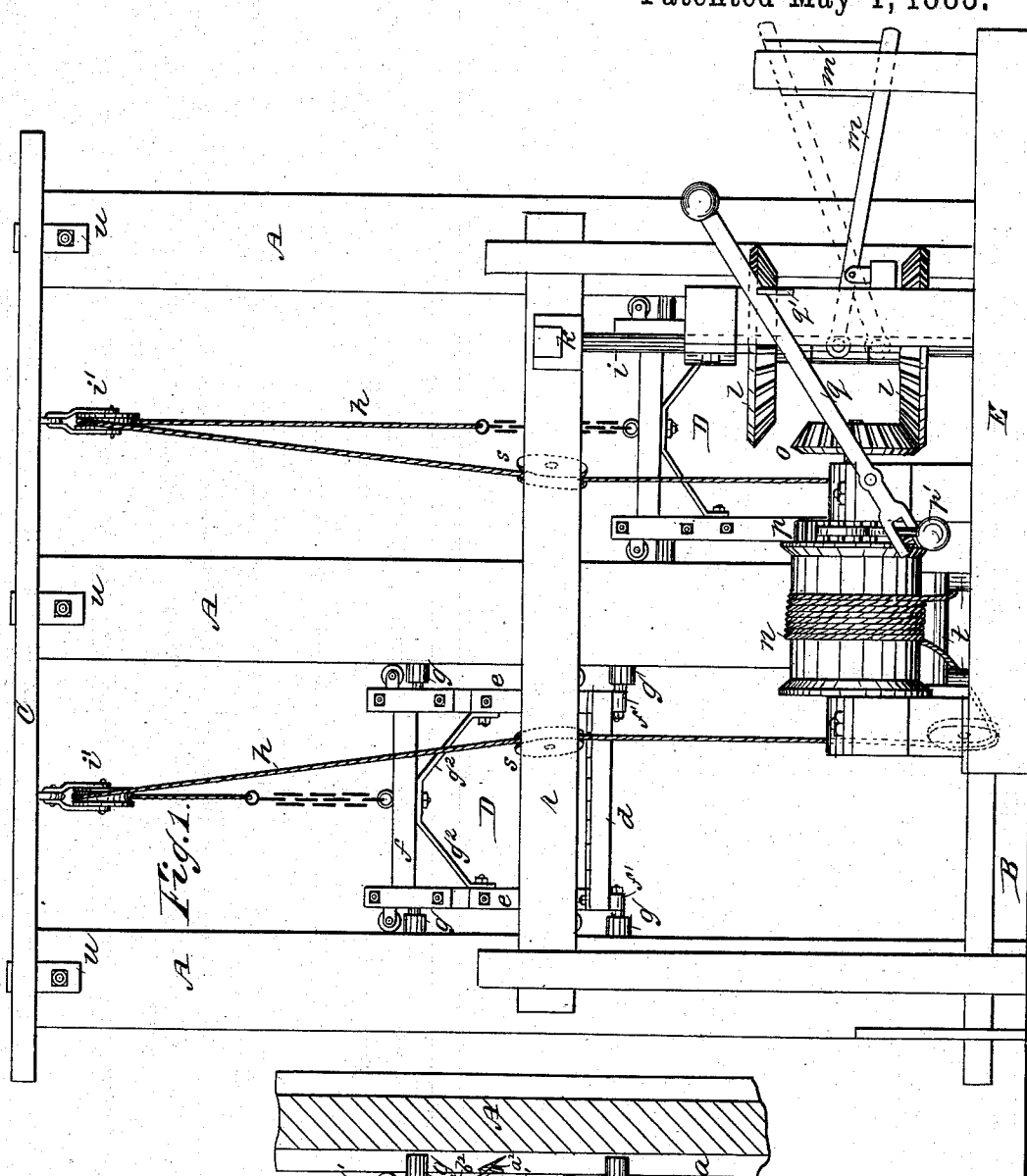


Fig. 1.

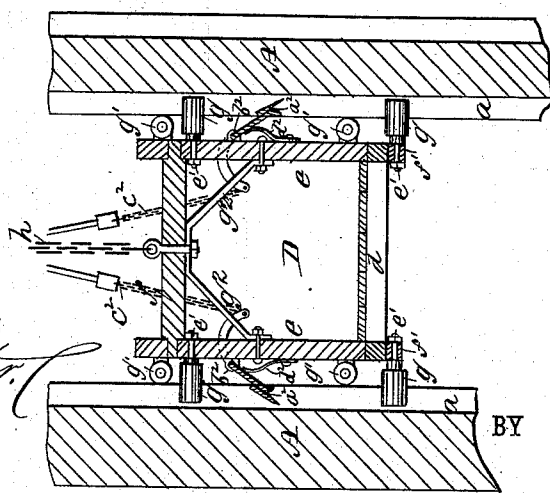


Fig. 5.

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C. Sedgwick

INVENTOR:

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BY

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ATTORNEYS.

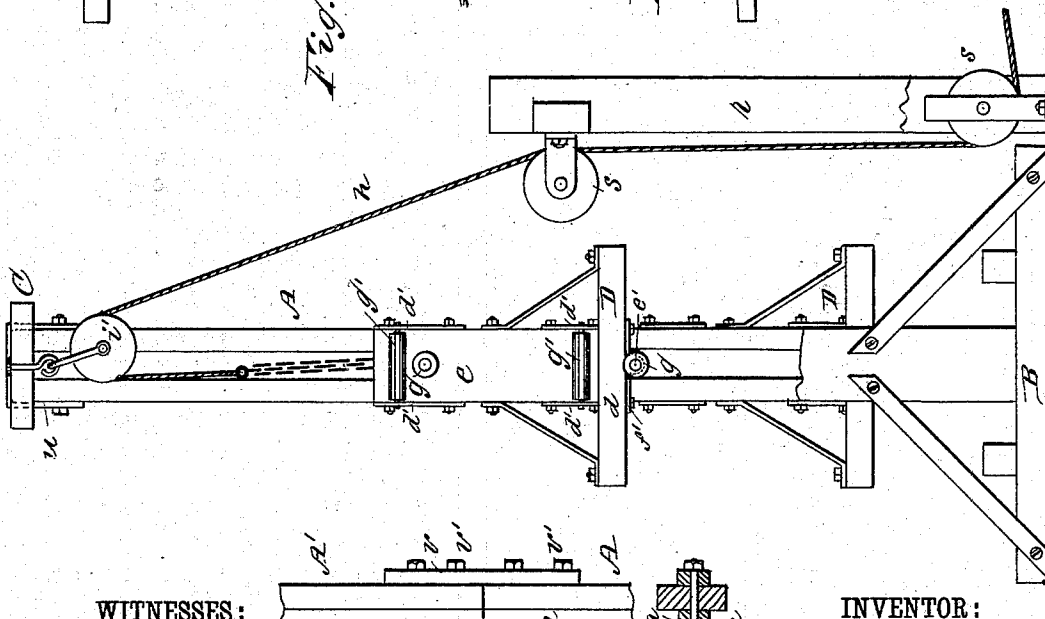
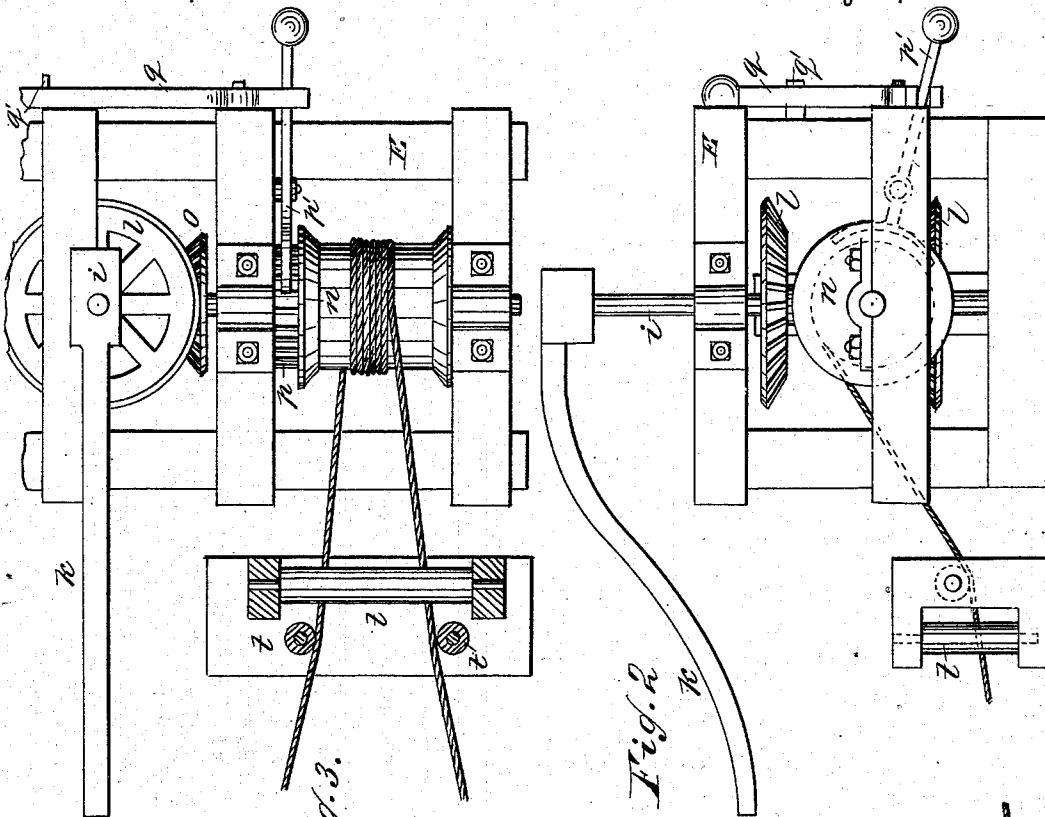
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2 Sheets—Sheet 2.

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WITNESSES:

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Fig. 4.

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UNITED STATES PATENT OFFICE.

LEVI DASO, OF PIONEER, OHIO.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 276,785, dated May 1, 1883.

Application filed November 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, LEVI DASO, of Pioneer, in the county of Williams and State of Ohio, have invented a new and Improved Elevator, of which the following is a full, clear, and exact description.

The object of my invention is to provide for elevating brick, mortar, and other building material to the desired height in buildings in the course of construction more rapidly and with less labor than is required by the usual methods.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation of my improved elevator and power. Fig. 2 is a side view of the same, partially sectional. Fig. 3 is a plan view of the power. Fig. 4 is a detail view, illustrating the manner of splicing the elevator-frame. Fig. 5 is a vertical section of one of the cars and its supporting-standards.

A A A are the standards of the elevator-frame, fixed at their lower ends to a suitable base, B, and connected at their upper ends by a cross bar or plate, C, which serves to prevent the standard from spreading, and they are also to be suitably braced at their upper ends from the floor by means of the building. These standards are placed to form guideways and supports for two cars or platforms, and for that purpose they are formed with longitudinal grooves *a* at their inner sides, the middle post having grooves upon both sides to receive guide-rollers that are attached upon the cars, as hereinafter described. D D are the elevator cars or platforms. These are constructed, as shown most clearly in Fig. 5, of a bottom frame, *d*, of scantling, and side standards or uprights, *e e*, that are connected at their upper ends by a cross-bar, *f*. The lower ends of the standards *e* rest upon the platform *d*, and are attached thereto by irons *d'*, that pass through the sides of the frame and are secured by nuts upon the under side. On the lower ends of these irons *d'* are plates *f'*, which are formed with eyes that receive rods *e'*, upon the outer ends of which are the guide-rollers *g*, that enter the grooves *a* of the standards A. These rods *e'* are formed with a shoulder next to the platform, and on their outer

ends are washers, by which the rollers are held in place. The standards *e* are also provided with horizontally-placed rollers *g'*, that bear upon the standards A. The uprights *e* are stiffened by braces *g²*, and upon the bottom frame, *d*, is a flooring of suitable character. The two platforms are supported by ropes or chains *h*, passing over blocks *i'*, that are suspended from the upper cross-bar, C. From these blocks the ropes pass to the power mechanism, next described.

E is a suitable frame, that is to be fixed upon the ground or upon the lower floor of the building.

i is a shaft fitted vertically in the frame E in bearings that allow of its being moved endwise a short distance. On the upper end of this shaft is a lever, *k*, extending beyond the frame E a suitable distance for attachment of a horse.

l l are beveled-gear wheels, fixed upon the shaft *i* with their cogs facing each other.

m is a hand-lever, connected at its inner end to a sleeve on the shaft *i*, and at its outer end is a post, *m'*, formed or provided with a shoulder, beneath which the lever *m* is to be placed for sustaining the shaft in its raised position.

n is a drum supported on a horizontal axis on the frame E, and upon one end of the axis of the drum is a beveled-gear wheel, *o*, the position of which is between the two beveled wheels *l l*, the wheel *o* being of such diameter that it engages with only one of the wheels *l* at once.

On one end of the drum *n* is a ratchet-wheel, *p*, which is engaged by a double-ended lever-pawl, *p'*, that is weighted at its outer end. *q* is a lever placed at the side of the frame E, and having its inner end forked to engage the pawl *p'*. The outer end of this lever *q* extends to a convenient place for its operation, and it is weighted, so that when released from the support *q'* the lever *q* will fall and raise the pawl *p'* into engagement with the ratchet-wheel. The ropes *h* from the elevators pass to the drum *n*, and are wound thereon in opposite directions, so that when the drum is revolved one car or platform shall be raised, while the other is lowered.

A frame, *r*, carrying guide-rollers *s*, is fixed at a point outside the circle traveled by the horse, and the ropes *h* pass at the back of the

upper guide-rollers, *s*, and beneath the bottom guide-rollers. Similar guide-rollers, *t*, are placed next to the frame *E*, and are supported in a suitable frame for guiding the ropes to the drum *n*, and for keeping the ropes sufficiently near the ground or floor to allow the horse to step over them.

In the operation of the machine the shaft *i* is to be kept in continuous rotation by a horse traveling in one direction. By means of the lever *m* the shaft *i* can be raised and lowered, and the gear-wheel *o* of the drum thus brought into engagement with either wheel *l*, and the drum thus caused to rotate in the desired direction. By these means a loaded car can be raised at the same time the other is being lowered. The material is placed upon the platforms preferably in barrows; or, in case stone—such as window-sills—are to be elevated, they can be placed directly upon the platform. In order to allow lengthening of the main standards *A*, the upper cross-bar, *C*, is attached by means of straps *u*, which are bolted to the standards, and to attach an additional length, as shown at *A'* in Fig. 4, the bolts are to be removed, the cross-bar taken off, and the piece attached by splice-plates *v* and bolts *v'*. The cross-bar can then be replaced at the upper ends of the lengthened standards.

In order to prevent the falling of the platform, a safety-stop (shown in Fig. 5) is provided. *a*² is a prong or barb projecting from a pin, *b*², that is hung in staples or eyes on the upright *e* of the car. The ends of the pin *b*² are bent at right angles at the sides of the upright and connect by cords or chains *c*² to the hoisting-rope *h*, so that by the weight of the car the prong *a*² is held out of contact with the bottom of the groove in standard *A*, into which the prong projects. *d*² is a spring placed to force the prong outward when the weight is released by breaking of the rope or otherwise. One of these safety-stops is placed on each upright of the platform.

With this apparatus the labor of hoisting building material can be accomplished rap-

idly, and with much less labor than is required by the ordinary method. The wheelbarrows can be readily removed from the platforms when raised, and the material wheeled to the point where it is required for use, and as the wheelbarrows will hold a considerable quantity, one man is thus enabled to do the work of three or more. The cars may be held in any position when the horse is stopped by moving the lever *g*, and thereby engaging the pawl *p'* with the ratchet-wheel *p*.

The apparatus may also be used for raising any materials of a heavy nature; and I do not limit myself to the details of construction or special arrangement of the parts as set forth.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In elevators, the combination of the platforms *D*, provided with guide-rollers, with the grooved standards *A*, substantially as shown and described.

2. In an elevator, two platforms, *D D*, movable on separate standards, in combination with the same drum, but different ropes, the said ropes passing around the drum in opposite directions, whereby both elevators are operated together by turning the drum alternately in opposite directions, one being let down as the other is elevated, as described.

3. The safety-stop consisting of prong *a*², pin *b*², connections *c*², and spring *d*², substantially as described, combined with an elevator-car.

4. The combination, with the two platforms *D D* and their supports *A*, of the hoisting-drum *n*, beveled-gear wheels *o l l*, and driving-shaft *i*, fitted for endwise movement, substantially as shown and described.

5. The double-ended pawl-lever *p'* and ratchet-wheel *p*, combined with a winding-drum, *n*, substantially as and for the purpose set forth.

LEVI DASO.

Witnesses:

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ORVIN P. GAY.